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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/854,528	05/15/2001	Toru Suzuki	00653/01-F-011US/UA	8224

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EXAMINER	
HOFFMANN, JOHN M	

ART UNIT	PAPER NUMBER
1731	

DATE MAILED: 03/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/854,528	SUZUKI ET AL.	
	Examiner	Art Unit	
	John Hoffmann	1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 March 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3 and 12-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3 and 12-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Supplemental DETAILED ACTION

This new office action is submitted in view of the amendment that crossed in the mail with the last Office action. The period for response is restarted with this Office Action.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1 and 12-14 rejected under 35 U.S.C. 101 because the disclosed invention is inoperative and therefore lacks utility.

Applicant admits the invention won't work. See page 6, of the response filed 10/31/05 which states (in part): "...orientation of the ceramic particles...is only possible" with Topchiaschvili's ceramics. Applicant goes on to argue that the alumina ceramics of Wei and Takagi have susceptibilities which do not render them susceptible to magnetic orientation. Examiner can see no difference in the alumina of the prior art and applicant's alumina – thus it is presumed that applicant's alumina have same susceptibility and thus would not work.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1 and 12-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The MPEP sets forth what must be considered to establish whether the enablement requirement is met.

2164.01(a) Undue Experimentation Factors

There are many factors to be considered when determining whether there is sufficient evidence to support a determination that a disclosure does not satisfy the enablement requirement and whether any necessary experimentation is "undue." These factors include, but are not limited to:
(A) The breadth of the claims;
(B) The nature of the invention;
(C) The state of the prior art;
(D) The level of one of ordinary skill;
(E) The level of predictability in the art;
(F) The amount of direction provided by the inventor;
(G) The existence of working examples; and
(H) The quantity of experimentation needed to make or use the invention based on the content of the disclosure.

Examiner has considered all of the factors: none tends to strongly support a determination that necessary experimentation would be undue. Nevertheless applicant's admissions that Topshiaschvili's orientation is "only possible" with Topschiaschivili's ceramics, and that the prior art aluminas are not susceptible to magnetic orientation.

Claim 14 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

First of all there is no support for any step of adjusting of a slurry – the examples merely indicate that slurry created then molded – but no adjustment. Second, there is no support for the claimed numerical values/ranges. For example there is no support for the 20% boundary condition of part (B). The table that applicant submitted only gives values of 30 and 40 for (B) requirements – there is no basis for extending it down to 20%.

From **MPEP 2163.04:**

III. RANGE LIMITATIONS
With respect to changing numerical range limitations, the analysis must take into account which ranges one skilled in the art would consider inherently supported by the discussion in the original disclosure. In the decision in In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976), the ranges described in the original specification included a range of "25%- 60%" and specific examples of "36%" and "50%." A corresponding new claim limitation to "at least 35%" did not meet the description requirement because the phrase "at least" had no upper limit and caused the claim to read literally on embodiments outside the "25% to 60%" range, however a limitation to "between 35% and 60%" did meet the description requirement.
See also Purdue Pharma L.P. v. Faulding Inc., 230 F.3d 1320, 1328, 56 USPQ2d 1481, 1487 (Fed. Cir. 2000) ("[T]he specification does not clearly disclose to the skilled artisan that the inventors... considered the... ratio to be part of their invention.... There is therefore no force to Purdue's argument that the written description requirement was satisfied because the disclosure revealed a broad invention from which the [later-filed] claims carved out a patentable portion"). Compare Union Oil of Cal. v. Atlantic Richfield Co., 208 F.3d 989, 997, 54 USPQ2d 1227, 1232-33 (Fed. Cir. 2000) (Description in terms of ranges of chemical properties which work in combination with ranges of other chemical properties to produce an automotive gasoline that reduces emissions was found to provide an adequate written description even though the exact chemical components of each combination were not disclosed and the specification did

not disclose any distinct embodiments corresponding to any claim at issue. "[T]he Patent Act and this court's case law require only sufficient description to show one of skill in the . . . art that the inventor possessed the claimed invention at the time of filing.").

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

There is no antecedent basis for "the case" of parts A, B, and C. There is confusing antecedent basis for the "powder" of lines 4, 6, and 9: it is unclear whether this is the powder of claim 1, or if it an additional powder. And, if it is an additional powder, it is unclear if it part of the slurry. There is also confusing antecedent basis for the composite mixture.

It is unclear if claim 14 requires adjusting steps. Claim 1 explicitly recites the "dispersing", "solidifying" and "sintering", but claim 14 uses the passive voice to indicate that the slurry "is adjusted". It is unclear what this shift in voice imparts to the claim.

Claim Rejections - 35 USC § 103

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Topchiashvili 6010983 in view of Wei 5518660.

Topchiashvili does not disclose the ceramics of claim 3 but it is clear from col. 7, lines 17-29 that the method encompasses materials other than the specific Ceramics disclosed. Wei discloses the importance of alumina ceramics (col. 1, lines 13-20). It

would have been obvious to alter the Topshiashvili orientating process by using alumina rather than superconductors, for the advantages of the alumina products. For the other details (including the limitations of the dependent claims) see the prior Office actions.

Claims 1, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Topchiashvili 6010983 in view of Takagi 4996177.

Topchiashvili does not disclose the ceramics of claim 3 but it is clear from col. 7, lines 17-29 that the method encompasses materials other than the specific ceramics disclosed. Takagi discloses the difficulty and desirability of creating oriented alumina sintered objects (col 1, lines 43-47). It would have been obvious to apply the Topschiashvili process/solution to the known alumina problem – so as to solve the problem.

For the other details (including the limitations of the dependent claims) see the prior Office actions.

Claims 1 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morita 4937214.

Morita discloses the use of colloidal alumina and using magnetic fields to form oriented ceramics. There is no indication of the strength of the magnetic field. It would have been obvious to perform routine experimentation to determine what strength of magnetic field would produce the optimal results. See col. 2, lines 51-66 and col. 4,

lines 64-68. The disclosed burning is the same thing as sintering; see also, col. 1, line 18.

If one does not consider Morita's paraffin to be a solvent, then the following applies. Examiner gives Official Notice that it is well known to use binder systems that use solvents such as water. Since the Offical Notice was previously taken and it has not been traversed by applicant, such is now Admitted Prior Art. Morita clearly is open to any reasonable binder system (see col. 2, lines 63-67). It would have been obvious to use any conventional binder system that uses a solvent – depending upon what binder is handy – or for any well-known advantage of the binder system.

All of the other limitations of claims 12-13 are clearly met.

Response to Arguments

Applicant's arguments filed 10/31/05 have been fully considered but they are not persuasive.

It is argued that the disclosure of col. 7, lines 17-29 of Topshiaschivili does not suggest any other particular ceramics. This is largely irrelevant, one would have been motivated to apply the improvement to any ceramic material that one desires to process.

It is argued that Topschiaschvili's orientation is "only possible" in ceramics with Topschiaschivili's susceptibilities. This is not persuasive because: 1) as indicated in the rejection, col. 7 indicates that the invention is not limited to the superconductors, 2) Applicant provides no evidence that it is "only possible" with the disclosed

superconductors, arguments cannot take the place of evidence, and 3) Topschiaschvili's field strength of 1-10 T (col. 3, line 32) is the same as applicant's claimed field. Clearly, Topschiaschvili's field strength is strong enough to make other ceramic's orientation "possible".

It is argued that it has been thought that the magnetic susceptibilities of the claimed powders can be disregarded in general. Applicant has provided no evidence to support this assertion.

Applicant has supplied evidence shows that one of the superconductors has a susceptibility about 10 time that of the alumina. Applicant then suggests that the this lower amount is an amount that can be disregard. Again no evidence is offered to support a determination that a value of 10% would be disregarded by one of ordinary this. Moreover, Applicant's CRC table (which was not supplied in its entirety, nor is there any indication as to whether it was published before the invention) shows materials with susceptibities that are 10-500 time that of Topschiaschvili's superconductors. Thus it would seem just as likely to conclude that since Topschiaschvili's ceramic (with its very low susceptibility) will work, one realize that there is no lower limit to the ceramics that can be utilized.

To look at it another way, one would immediately realized that one would just need to make an electric field that is 10 times as strong as Topschiaschvili's field to get the same effect in alumina.

Applicant argues that Topschiaschvili's susceptibility is 100 time greater – this is only true for titania. For alumina, they difference is only 10 times, not 100.

It is also argued that alumina is nonmagnetic. This does not appear to be relevant. Iron by itself can be not magnetic, and yet its grains can be easily oriented.

For the record, Examiner has determined that the susceptibility units are equal/interchangeable – not merely "equivalents".

As to Morita not teaching alumina with a magnetic field: Morita teaches orienting alumina and orienting ceramics using a magnetic field : this reasonably suggests orienting alumina ceramics with a magnetic field. It is irrelevant that Morita does not recognize any importance of susceptibility; an inventor need not understand how his invention works.

In the argument of 8 March 2006 that it is desirable to highly adjust the condition of the slurry. This does not appear to be very relevant, because there is no disclosure of any such adjustment.

Applicant also points to an attached sheet. The sheet is noted. The relevance of this sheet is not pointed out. Also, it looks like one of the graphs has been doctored. That attached sheet is not considered to be evidence – since it was not supplied in an affidavit or an IDS which points out its date of publication, source, etc.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

3-16-06

John Hoffmann
Primary Examiner
Art Unit 1731

jmh